PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	)	
	)	Examiner: C. Sadaat
Wallman et al.	)	
	)	Group Art Unit: 3713
Appl. No.: 09/505,678	)	
	)	
Filed: February 17, 2000	)	Atty. Dkt. No.: 2135.650
	)	
For: INFANTRY WEARABLE COMPUTER AND WEAPON SYSTEM	)	

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

APPELLANT'S BRIEF PURSUANT TO 37 C.F.R. §1.192

Now come Appellants, pursuant to Rule 192, and file this brief in support of their ex parte appeal from the twice rejection of all pending claims 39-46 and 49-51, dated August 18, 2003.

I. REAL PARTY IN INTEREST [§1.192)(c)(1)]

The real party in interest is the entity Exponent, Inc. as the assignee of record [recorded at Reel 010905, Frame 0609].

II. RELATED APPEALS AND INTERFERENCES [§1.192)(c)(2)]

None.

III. STATUS OF CLAIMS [§1.192)(c)(3)]

The claims on Appeal are claims 39-46 and 49-51. They are accurately reproduced in the Appendix to this Brief. No

claims are allowed (i.e. all claims currently stand rejected over the prior art).

The application as filed originally contained claims 1-37 and claim 39 (the claims were inadvertently mis-numbered to exclude claim 38). In response to the first Office Action (dated May 8, 2002), claims 1-38 were deleted and replaced with new claims 39-51 (via an Amendment dated October 8, 2002).

In response to the second Office Action dated December 18, 2002, claims 39 and 43 were amended and claims 47-48 cancelled by an amendment dated March 4, 2003.

In response to the second rejection of claims 39-46 and 49-51, Appellant timely filed a Notice of Appeal with the required fee on August 18, 2003.

IV. STATUS OF AMENDMENTS [§1.192)(c)(4)]

No amendments have been filed subsequent to the Office Action dated April 16, 2003 from which this Appeal is taken.

V. SUMMARY OF THE INVENTION [§1.192)(c)(5)]

The invention, as recited in the claims, is a computer interfaced weapon system having a weapon mounted cursor control device so located on a rear facing portion of the weapon grip such that both right and left handed users can access the cursor control device with a thumb while simultaneously maintaining contact with the trigger of the weapon with a finger. An embodiment of the weapon system is illustrated and described, generally, in Fig. 1 and on page 11, lines 1-25 and page 12, lines 1-9 of the specification.

As illustrated in Fig. 1 and as described in the relevant portions of the specification, the claimed

apparatus generally includes a weapon 4 communicably connected to a computer 7, a power supply 11a and/or 11b for powering the computer as well as other optional peripheral components, a software interface for operating the computer, and a cursor control mechanism for interacting with the software interface. Although Fig. 1 illustrates a general overview of the apparatus as claimed, it is noted the claimed cursor control mechanism at issue is not illustrated in Fig. 1. Instead, the inventive cursor control mechanism, as part of the combination of the claimed weapon system, is illustrated in Fig. 5 as part number 41. The weapon grip in Fig. 5 is shown as part number 32 (on which the cursor control mechanism is mounted) and the weapon trigger for effecting firing of ammunition is labeled as part number 34.

As can be seen in Fig. 5, cursor control mechanism 41 is located at the rear of weapon grip 32. As described in the specification at page 28, lines 9-18, the unique positioning of cursor control mechanism 41, as claimed, 1) allows the mechanism to be used ambidextrously; and 2) allows the cursor control mechanism to be operated (e.g. with a thumb) while simultaneously maintaining operational contact with trigger 34 with a trigger finger (e.g. an index finger).

Heretofore, known computer control mechanism/weapon combinations located the computer control mechanism on one side of the weapon or another. This allowed use of the control mechanism by either a left or a right handed user but not both interchangeably. Consequently, for example, weapons having prior art computer control mechanisms mounted thereon would have to be assembled for use by combat troops in precise numbers according to a pre-

determined number of right and left handed users, respectively. As contemplated by Appellants, this is disadvantageous, particularly in combat situations. More specifically, in combat scenarios, troop casualties as well as new troop deployments and troop movements and transfers between units, etc. causes often unpredictable fluctuations in the specific numbers of right and left handed users. Therefore, in order to maintain adequate equipment supplies, surpluses of both computer control mechanism/weapon combination configurations (right and left handed) must be maintained in order to ensure that enough weapon configuration types are always available. Alternatively, if surpluses of both configurations are not maintained, weapon shortages for a particular type of user can and likely will occur. Utilizing the computer control mechanism according to the subject invention as claimed, however, only one weapon configuration need be stockpiled, thus saving considerable expense as well as valuable storage space (because it is easier to predict troop numbers than it is to predict ratios of hand dominance).

In a further problem of the prior art, due to the positioning of conventional computer control mechanisms, if it was desired to perform most computer functions, it was necessary to remove the trigger finger from the trigger. Again, in combat (or law enforcement) situations, substantial disadvantages arise.

For example, if a prisoner/enemy/criminal is being held/subdued at gunpoint, it is downright dangerous to remove one's finger from the weapon trigger. Similarly, if the system user is in a firefight, it may be most advantageous to continue firing his/her weapon while simultaneously sending commands or other information via

computer 7 (or to operate various optional peripheral components via the control mechanism). In such a situation then, it is a great safety disadvantage to be required to remove one's trigger finger from the weapon trigger. Solving the aforementioned problems, however, the invention as claimed allows virtually all functions of the cursor control mechanism to be performed while simultaneously maintaining weapon trigger control. As a result, safety during operation is greatly increased.

In a further claimed embodiment of the subject invention, the aforementioned abilities are further enhanced when combined with a software interface capable of the "click and carry" method of cursor control as claimed in certain of the dependent claims. Such a method allows a graphical icon to be selected, carried, and dropped utilizing a single finger or thumb (as opposed to requiring multiple fingers to be employed) thus enhancing the ergonomic capabilities of the claimed system. Page 30 lines 10-25; page 31, lines 1-25; and page 32, lines 1-2 describe the claimed click and carry method in more detail in conjunction with Fig. 6b.

VI. ISSUES

The Office Action dated April 16, 2003 raises two contentions of obviousness now at issue.

1. Office Action, ¶3: Do claims 39, 41, 43, or 49-51 recite non-obvious subject matter over Gross et al. in view of Leiper [35 U.S.C. §103(a)].

2. Office Action, ¶4: Do claims 40, 42, or 44-46 recite non-obvious subject matter over Gross et al. in view

of Leiper and further in view of Magid et al. [35 U.S.C. §103(a)].

Each rejection and thus each issue delineated above is solely based upon a finding of obviousness under §103(a). No issue has been raised regarding any failure of the claims to recite novel subject matter under §102. It is therefore indisputable and implicitly recognized in the April 16, 2003 Office Action that the claimed invention is novel.

VII. GROUPING OF CLAIMS [§1.192)(c)(7)]

For purposes of determining patentability thereof and for the purposes of discussion herein, claims 39 and 43 are requested to be considered as one group and claims 40-42 and 44-51 are requested to be considered as a second group.

Nevertheless, it is here stated that consideration of the claims of the second group here on Appeal becomes moot in the event that either of claims 39 or 43 is found patentable. By law, if either or both of these claims are found to be patentable, all claims dependent thereon (on the allowable claim or claims) would be patentable as merely adding additional limitations to a patentable claim.

VIII. ARGUMENT

SUMMARY:

The April 16, 2003 Office Action improperly attempts to combine references from divergent fields of art to reach it's conclusions of obviousness without any incentive or suggestion to do so (other than hindsight based on information learned from Appellants). For these reasons,

all claims 39-46 and 49-51 are believed to recite patentable subject matter. The following, more detailed arguments presented on an issue by issue basis demonstrate these points.

ISSUE 1: (Claims 39 and 43)

Contrary to the April 16th Office Action, claims 39 and 43 recite non-obvious subject matter over Gross et al. in view of Leiper.

Gross et al. (U.S. Patent No. 5,864,481) discloses a man-portable communication system which includes, generally, a weapon, a computer, and a computer control device (as well as a power supply and various peripheral components) integrated as a communicative unit. Gross et al. does not teach a weapon mounted cursor control device so located on a rear facing portion of the weapon grip such that both right and left handed users can access the cursor control device with a thumb while simultaneously maintaining contact with the trigger of the weapon with a finger.

In order to reject independent claims 39 and 43 then, the Examiner cited Leiper (U.S. Patent No. 6,128,002) as containing a teaching to locate a cursor control mechanism at the rear-facing portion of a weapon grip. It is noted, however, that nowhere does Leiper contain such a teaching. Furthermore, any teachings that Leiper does contain have been improperly combined with the structure of the Gross et al. reference. The following paragraphs illustrate these points in more detail.

A. Firstly, Leiper does not even teach a cursor control mechanism located on the controller described therein. Instead, Leiper teaches a controller for

manipulation and display of medical images which includes a trigger for operation of a voice dictation system, left and right "toss" buttons for toggling through dictation functions, and a pressure switch for scrolling through displayed images (see column 7, lines 48-53, and column 8, lines 33-50 of the Leiper patent). Although alternative functions for these buttons and switches are described elsewhere in the Leiper patent, nowhere is a conventional cursor control mechanism described therein (such as claimed in claims 39 and 43 which recite a control mechanism for controlling a cursor).

As contemplated by the inventor, and as recognized by persons of ordinary skill in the art, a conventional cursor control device is capable of moving a cursor throughout the substantially complete dimensions of a graphical user interface, in substantially any direction, in order to perform various functions. In contrast, the buttons and switches taught by the Leiper patent merely allow toggling, scrolling, or off and on switching functions to be performed. Although it is acknowledged in column 5, lines 35-45 of the Leiper patent that alternatives to these switches can be implemented in the Leiper controller, it is importantly noted that the delineated substitute structures are described in conjunction with performing the above listed non-cursor controlling functions. Therefore, because neither Gross et al. nor Leiper teach to locate a cursor control mechanism at the rear-facing portion of a weapon grip, the rejection of claims 39 and 43 is respectfully suggested to be improper and should be withdrawn. (To establish a prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by

the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974) underlining added).

B. Secondly, even if Leiper contained a teaching to locate a cursor control device on the controller described therein, because there is no incentive or suggestion contained in the references to combine the Leiper structure with the weapon system described in Gross et al., the combination of these references in a §103 rejection is improper.

It is a fundamental principle in patent law that in order for an obviousness-type rejection to be proper, there must be some motivation, explicit or implicit, to combine the features of one reference with the features of another to arrive at the claimed invention. Thus, even if every element of a claimed invention is taught in two separate references, if there is no motivation to combine the references, then an obviousness rejection would be improper (In re Rouffet, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998)).

In the instant case, neither the Gross et al. reference nor the Leiper reference contain any teachings or suggestions which would provide the necessary motivation to combine the references to arrive at the claimed invention. In this regard, neither reference identifies the problems solved by the instant invention, namely the need in the combat arts for a weapon having a cursor control device located for ambidextrous use (e.g. to ameliorate storage and/or manufacturing cost issues) which can be operated while maintaining the user's finger on the trigger of the weapon so that the weapon can be fired at a moments notice (e.g. for safety reasons as detailed in the paragraphs above).

Conversely, although Gross et al. teaches a weapon system as summarized above, Gross et al. nowhere teaches about any of the aforementioned problems of the prior art with regards to cursor control devices. Still more contrastingly, the Leiper reference is not even related to the weapon arts and, in fact, merely discloses a device for manipulation and display of medical images.

In this regard, the problems that the controller described in Leiper addresses (with its various buttons and switches) are in no way related to the safety issues or stockpiling (and/or storage or cost) issues discussed with reference to the instant invention above. Instead, the controller described in Leiper is designed merely to simplify the process of computerized medical image viewing. More particularly, the disclosed Leiper controller is designed to integrate dictation functions (i.e. voice recording) with a control system for more simplified scrolling through and/or selecting of medical images.

Because neither of the cited references provide any incentive or motivation to make a combination to arrive at the claimed invention, the invention, as claimed, is believed to be patentable.

C. Thirdly, and still furthermore, because the problem(s) solved by the claimed invention were not disclosed in the Leiper or Gross et al. references, it is respectfully asserted that the Leiper reference, absent some motivation, would not have even appeared relevant to one of ordinary skill as having any pertinence to weapon information systems (unless improper hindsight was employed). For this reason, it is proffered that the Leiper reference is non-analogous art and therefore cannot be

properly applied in an obviousness-type patentability rejection.

For the foregoing reasons, the Examiner's holding that the claims at issue recite only obvious subject matter over Gross et al. in view of Leiper is respectfully requested to be reversed.

ISSUE 2: (Claims 40-42 and 44-51)

Contrary to the April 16th Office Action, claims 40-42 and 44-51 recite non-obvious subject matter over Gross et al. in view of Leiper, or, alternatively, over Gross et al. in view of Leiper and further in view of Magid et al.

For the reasons discussed above with regards to claims 39 and 43, each of the claims dependent thereon is believed to be patentable. In addition, however, claims 40 and 44 each recite limitations which, in combination with the limitations recited in the independent claims, are believed to be separately patentable.

Claims 40 and 44 both recite a "click and carry" method of cursor control discussed in detail above (in the *Summary of Invention* section). Such a cursor control method, as recited, allows a cursor to be controlled (i.e. moved and actuated) by the recited cursor control mechanism in a manner which allows a graphical icon to be dragged, moved, and dropped with a single finger. Such a capability substantially increases the safety of the use of the recited cursor control mechanism particularly in combat or law enforcement-type situations.

Because there is no incentive or suggestion contained in the Magid et al. reference (nor in the other cited references) to combine the disclosed prior art cursor control capabilities with the computer control mechanism

and weapon system (disclosed separately in Leiper and Gross et al., respectively) to make the invention as recited in claims 40 and 44, the rejection of these claims as obvious over the cited references is believed to be improper.

For the foregoing reasons, reversal of the Examiner's rejections of claims 40-42 and 44-51 as obvious over the prior art is respectfully requested to be reversed.

CONCLUSION

The rejection of all pending claims should be reversed. Action in accordance with this conclusion is respectfully requested.

Attached is a check in the amount of $330.00 for the fees for the submission of the Appellant's Brief. Should any additional charges be due, please charge Deposit Account 50-0644 and notify the undersigned.

Respectfully Submitted,

Date: 10-16-2003

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Attachments

I hereby certify that this correspondence is being hand carried to the U.S. Patent and Trademark Office on 10-16-2003

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